

This test site did, however, disclose the feasibility of co-located sites. Even with the GTE site being about 2 kilometers away, GTE was best server at the ramp leading to the Flagship Hotel.

1998 TEST DATA:

A fully instrumented test drive was undertaken from High Island, Texas along the Bolivar Peninsula, which was the area GTE showed in Exhibit II of their ex parte presentation. GTE claimed that their Exhibit II showed that "In Texas, the Gulf Carriers' signal on the beach dominates the Land-Based Carriers' signal in many places". Exhibit III shows the general location of this part of the Texas coast.

Equipment and Procedure:

A light truck was utilized to carry the test equipment which had the following characteristics:

Two magnet-mount cellular antennas on the roof; each antenna has 3dB gain. Line loss was 3dB, therefore the effective antenna gain was 0 dBd. Antenna center of radiation was at 6 feet AGL.

A two-channel calibrated Wireless Measurement System manufactured by Grayson Electronics Company, serial no. AS4765.

A roof-mounted GPS antenna.

A Toshiba lap-top computer, with SpectrumTracker software, which operated the scanning measurement receivers and recorded all data to disk.

The scan program was set up as follows:

1. Receiver 1 scanned all "A" side control channels.
2. Receiver 2 scanned all "B" side control channels.
3. Each channel was sampled 120 times in a one-second period and the maximum, minimum, and average signal level, in dBm, was recorded to disk. This was repeated four more times before skipping to the next channel.
4. The GPS coordinates were recorded to disk every 10 seconds.

The average speed was maintained near the local limits throughout the drive test. The beach road, Texas highway 87, was followed except through Galveston. In Galveston, the route driven was along Seawall Boulevard which is adjacent to the beach.

After completing the drive from High Island to the end of the Bolivar Peninsula, which was the extent of the data that GTE presented in their Exhibit II, the drive was extended to include the ferry crossing to Galveston Island, the beach-front drive through Galveston and continuing along highway 87 to near Freeport, Texas.

Data reduction procedure:

The data recorded on disk was processed to display, in graphical format, amplitude (signal strength in dBm) on the vertical axis and the distance from Freeport, Texas on the horizontal axis. The average of each one-second sample of 120 readings was the value which was plotted, provided it exceeded a signal level of -115 dBm.

RESULTS:

"B" SIDE (Coastel and GTE)

The three channels operated by Coastel at offshore platforms in this area were plotted in green (HI-116 @ 880.44 MHz; HI-A20 @ 880.23 MHz and GA-255 at 880.11 MHz). All other channels were plotted in red. An examination of the results, Exhibit IV, shows the following:

1. The level of a shore cell-site signaling channel never drops below -88 dBm on this entire drive.
2. The level of a Coastel signal never exceeds -90 dBm on this run.
3. The closest that a Coastel signal gets to equaling a land-carriers signal is -10 dB (at 22 kilometers from Freeport). This is only one-tenth of the receive signal power of the land-carriers' signal at this location.
4. The green line at the left of the graph (-78 dBm at 5 km) is actually a land station re-use of the Coastel control channel at HI-116, which is about 150 km away from this location.

5. The tall green peak below the GTE Jamaica Beach station signal does not actually exist. This is interference recorded due to the extremely strong GTE signal. The test equipment is not able to reject the GTE signal only a few channels removed.

"A" Side (Petrocom and Houston Cellular)

Petrocom operates three offshore channels along this portion of the coastline and has co-location agreements with Houston Cellular on four additional sites.

An examination of the "A" side map, Exhibit V, shows that Petrocom is apparently the best server in one small area on the west side of Galveston. The data has not been fully reduced to determine which location, and which channel, is indicated by the green curve which seems to become best server for a short distance. This also appears to be due to interference to the test equipment caused by the three extremely strong stations in this same vicinity. In any event, the coverage from the sites which are co-located with Houston Cellular are negotiated contracts which take into account the signal levels which presently exist in the Galveston area.

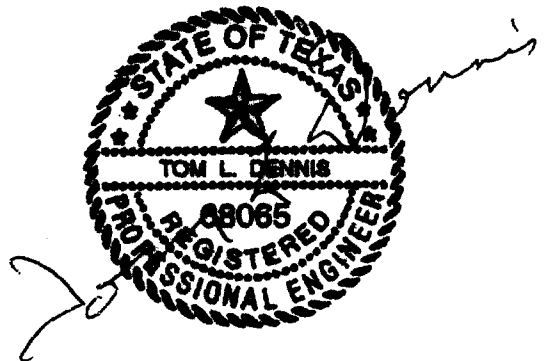
Further examination of the results, Exhibit V, shows the following:

1. The level of the land carrier's signaling channels never drops below -90 dBm.
2. The land carrier has at least one signaling channel which exceeds -80 dBm for all but 12 km of this 113 km test drive.
3. The green Petrocom signal levels which appear to exceed -90 dBm are believed to be due to test equipment overload by the extremely strong (-40 dBm) signals of the land carrier. Further analysis will be undertaken to prove this point.

SUMMARY:

There is no indication that Coastel could ever capture any cellular customers operating either mobiles or portables along the beach areas.

The only place where Petrocom becomes the apparent best server is in an area which is operated under a negotiated contract with Houston Cellular.



GTE VS Coastel Gulf Signal 144 deg. Radial Received Signal Strength

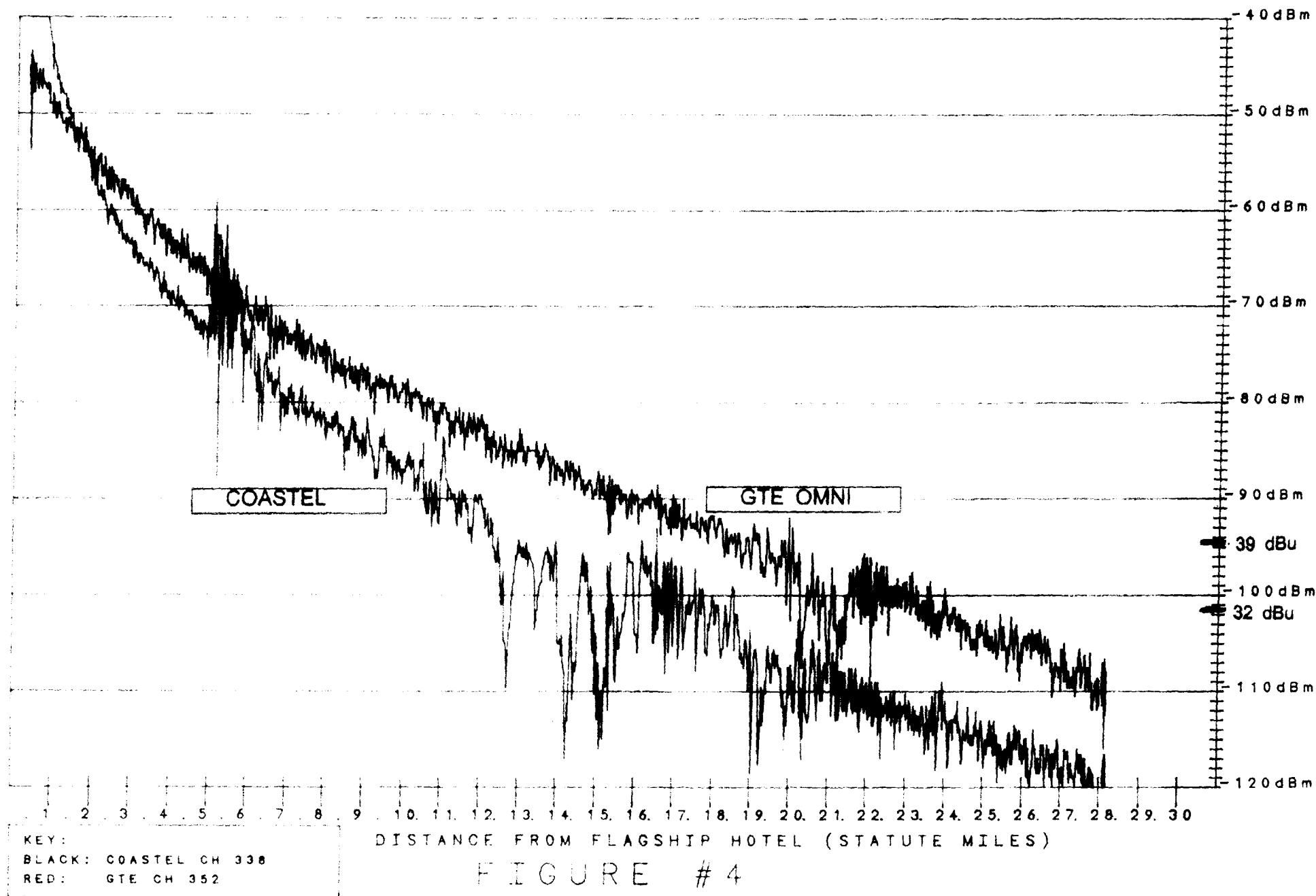
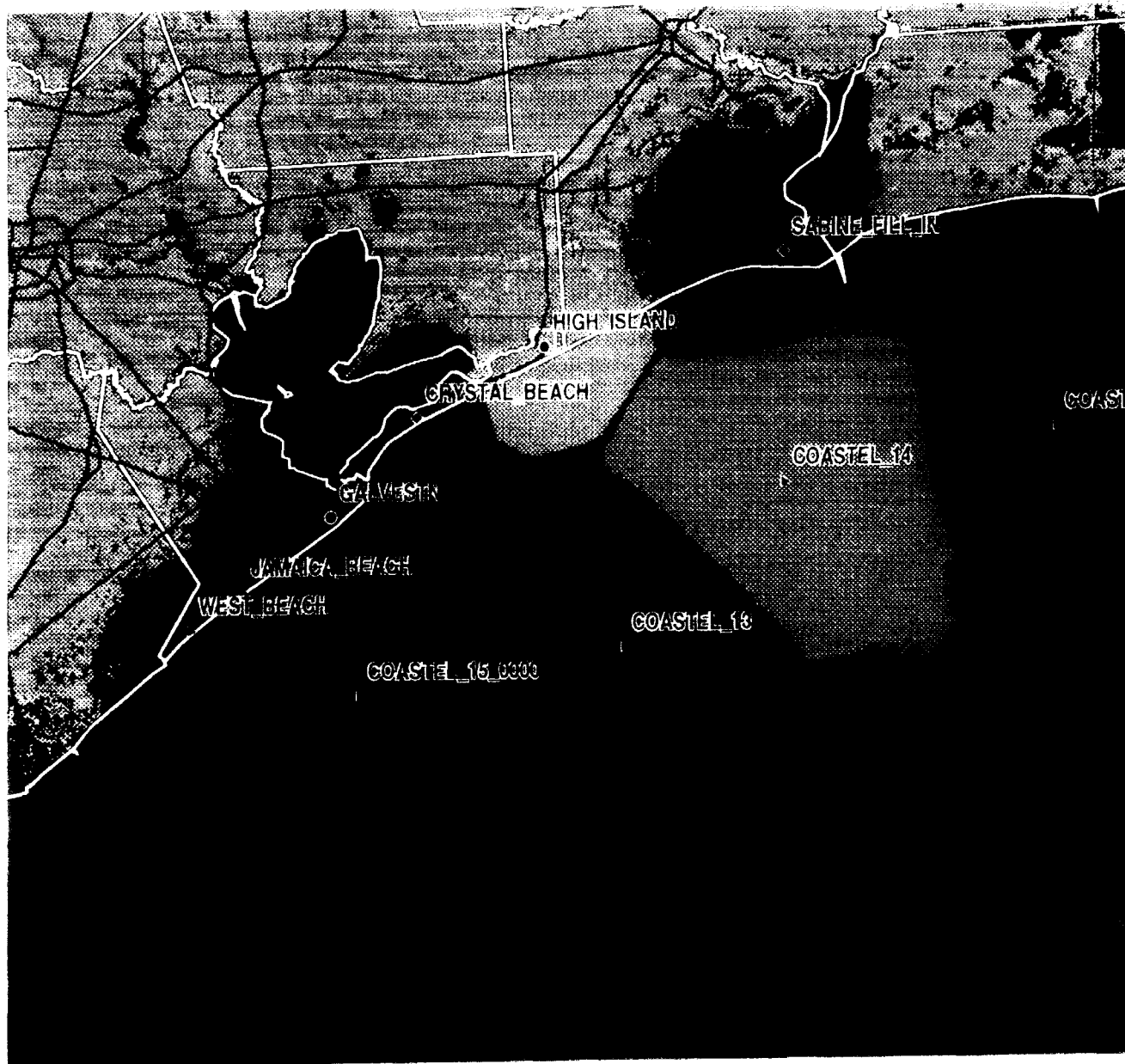


EXHIBIT I

PLAN 100000

Wed Jul 19 09:05:49 1995
C:\set IDL\engr

C:\M\2000\00
Map # 00



Sector/Site

0	COASTAL_14
0	COASTAL_13
0	COASTAL_12
0	SABINE HILL IN
0	CRYSTAL BEACH
0	HIGH ISLAND
0	GALVESTON
0	WEST BEACH
0	JAMAICA BEACH
0	COASTAL_15_0000

EXHIBIT II

Scale 1:1200000

C. H. McDaniel
2000000
Houston, TX 77006



COAST HIGHWAY FROM FREEPORT TO HIGH ISLAND, TEXAS

EXHIBIT III

Scale 1:500,000 (at center)
10 Miles

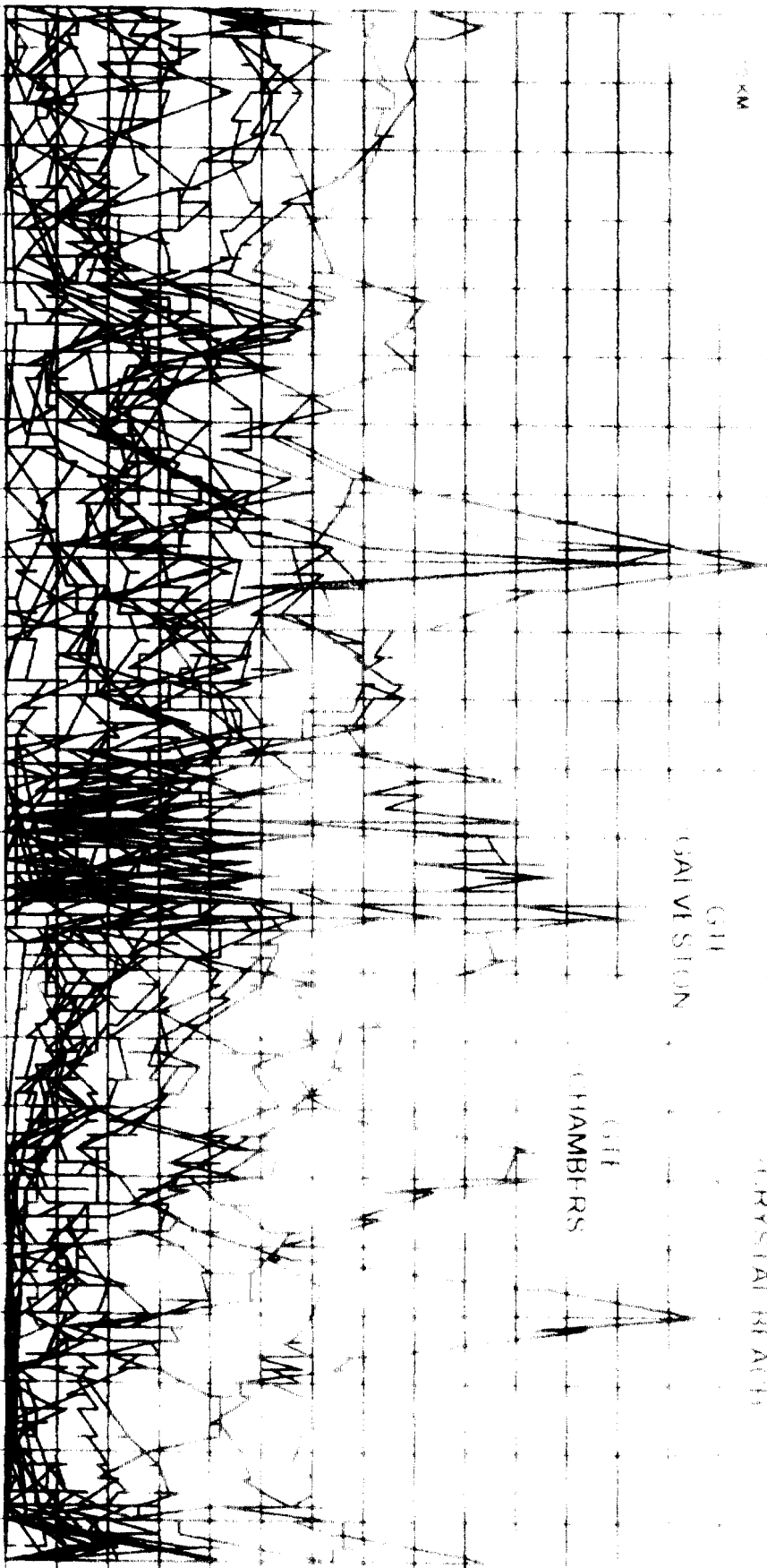
10 KM

GIT
JAM BEACH

GIT
GALVESTON

GIT
CHAMBERS

GIT
CRYSTAL BEACH



"B" SIDE (Coastal)

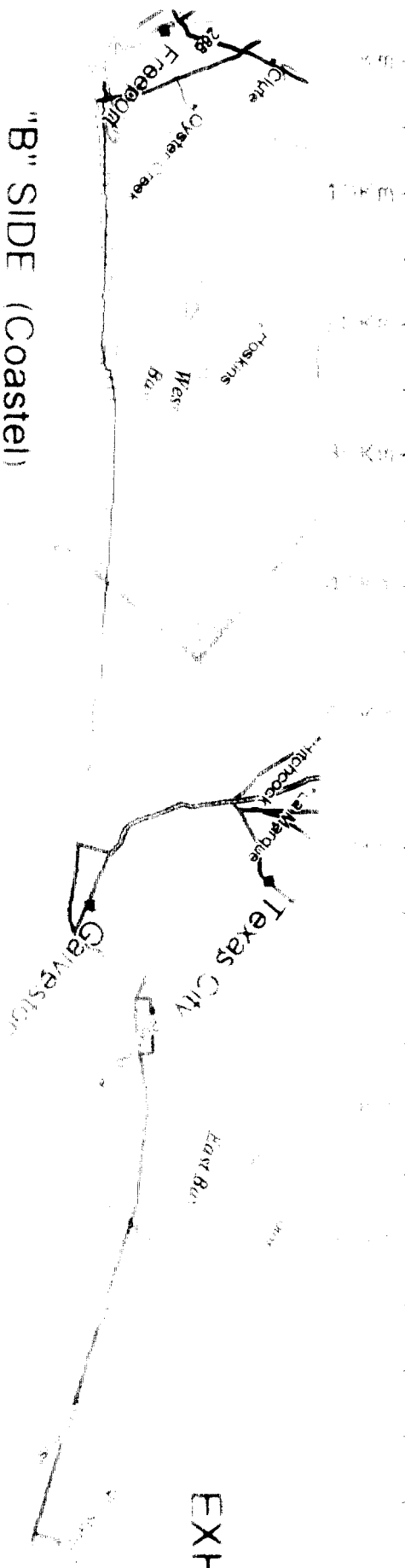
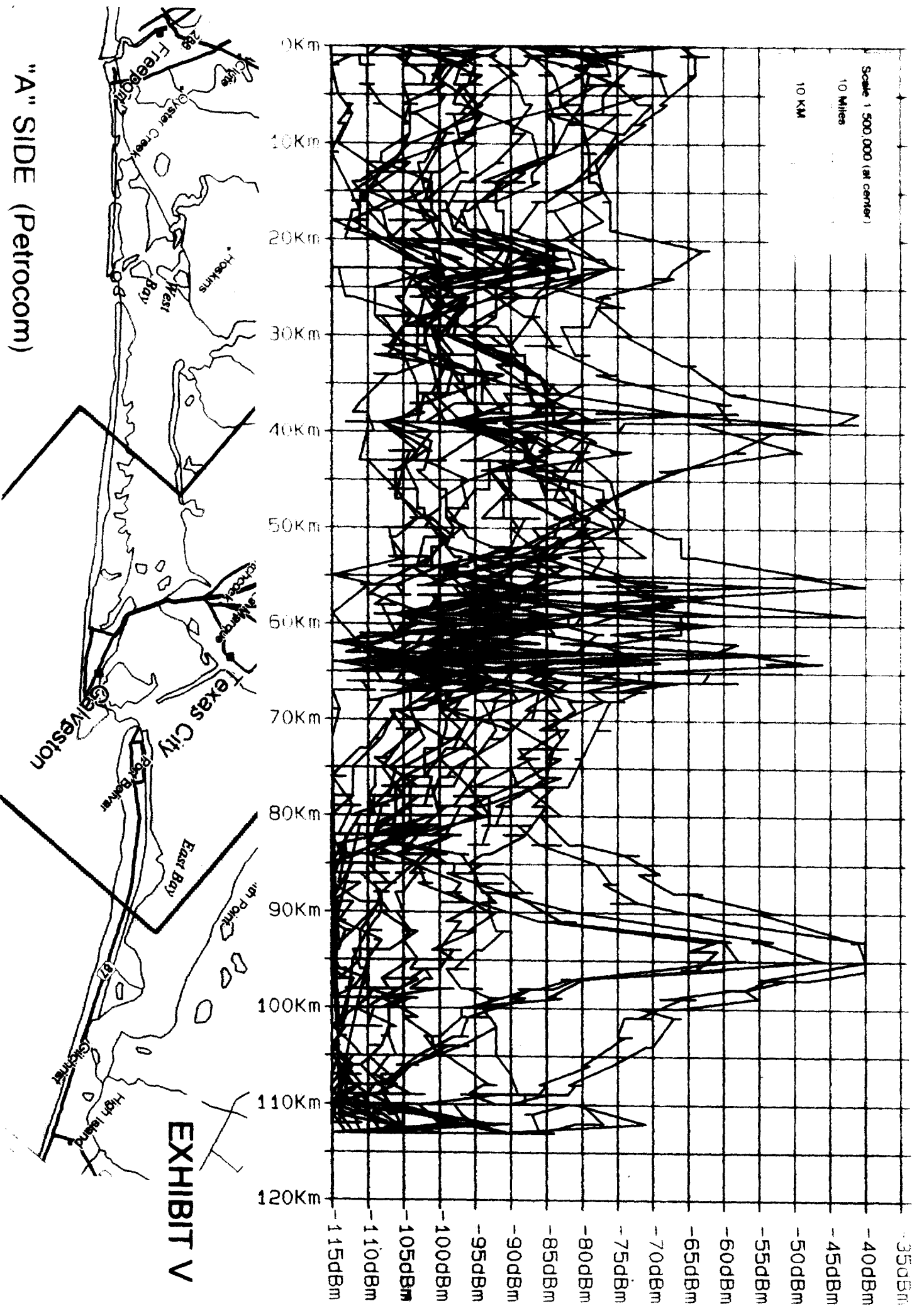
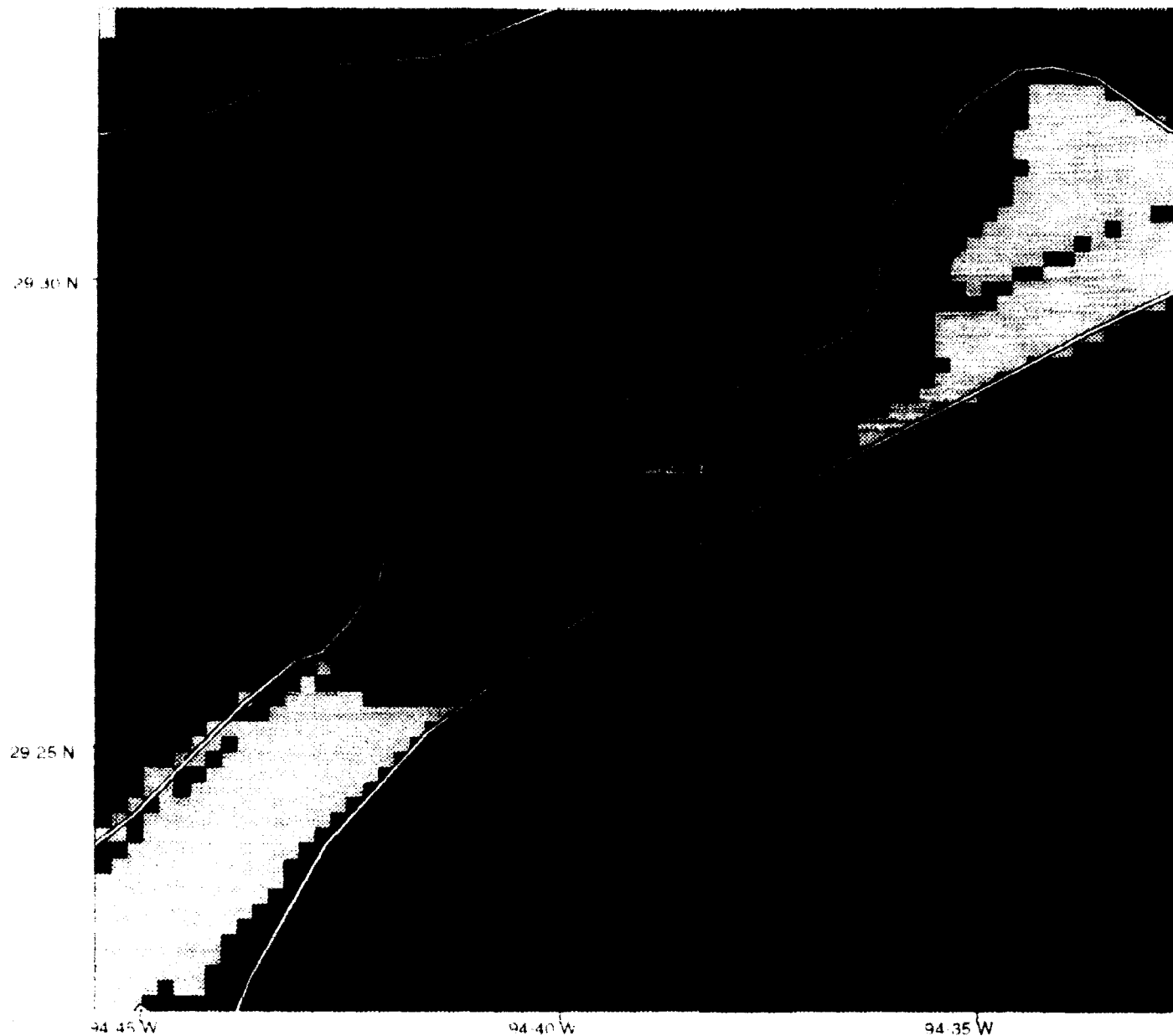


EXHIBIT IV



**Exhibit 3: GTE's October 13, 1997 map of Crystal Beach coverage
(Map #61, Zone 14)**

CURRENT CRYSTAL BEACH COVERAGE



HOUSTON SETUPS
GRANET Ver 2.3.1 [Build 17]
Map # 61
UTM zone 14
User ID: ddurden
Mon Oct 13 14:33:34 1997

Signal Strength [dBm]

BELOW -95
-95 to -85
-85 to -75
ABOVE -75

Scale 1:125,000

mile 0 1 2

km 0 2 4

GTE Wireless
3960 Braxton Drive
Houston, TX 77067

Exhibit 4: GTE's October 8, 1997 map of control channels

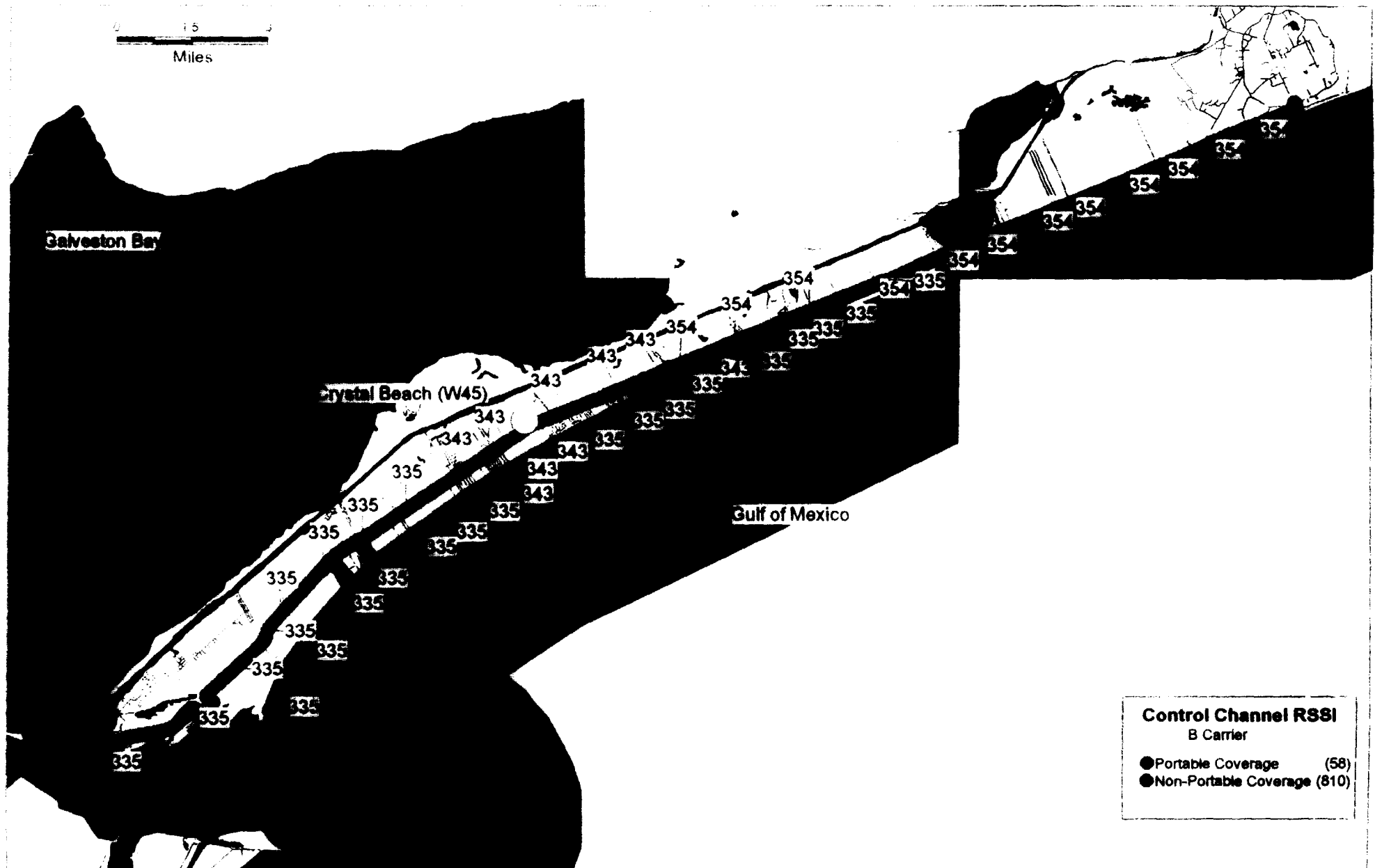
Exhibit 5: Hybrid propagation formula

Crystal Beach Drive Data 10/8/97

CH 335 = Galveston

CH 343 = Crystal Beach

CH 354 = Chambers



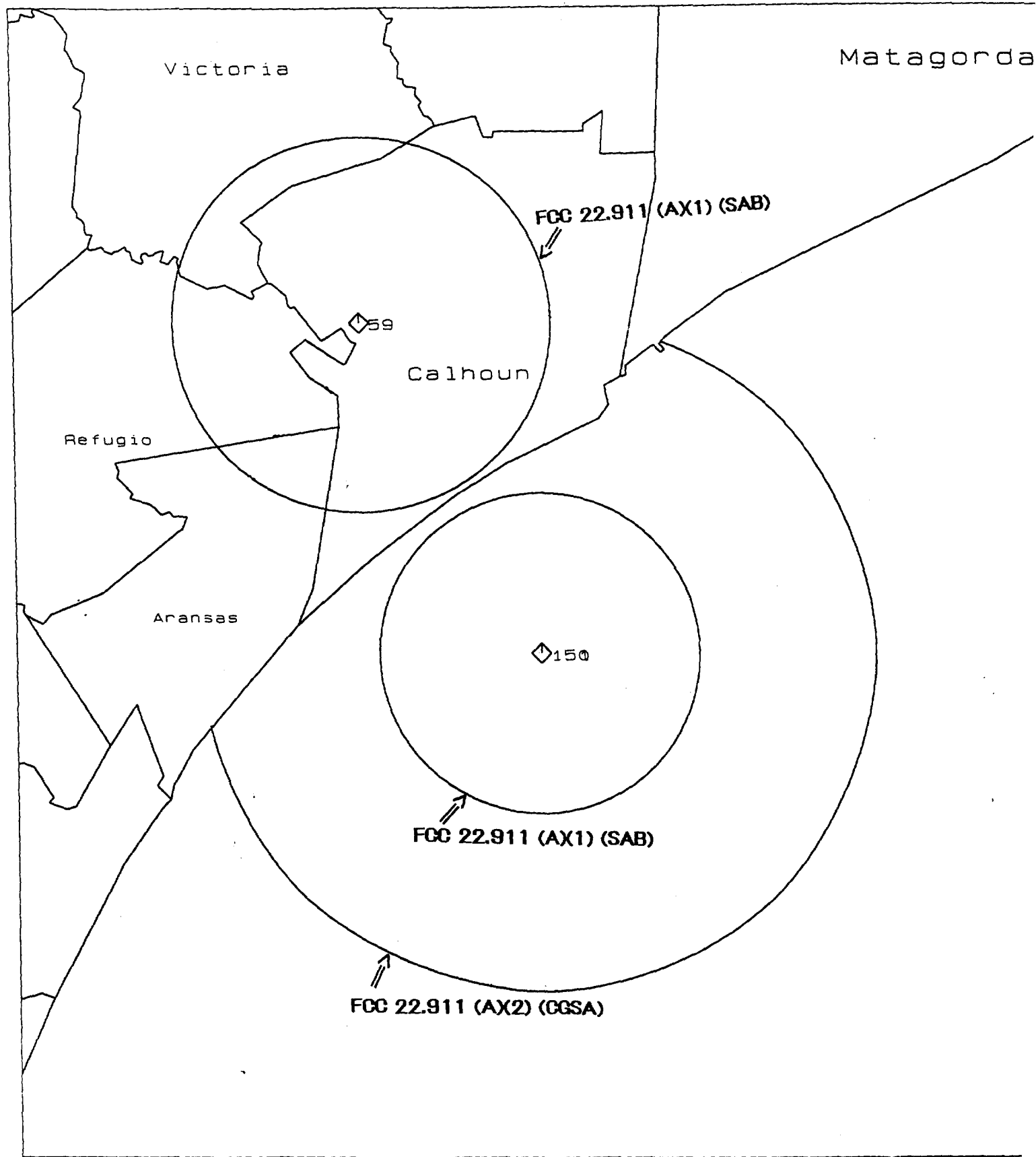


Exhibit 6: Example of existing collocation arrangement

North

MSITE(tm) - EDX Engineering, Inc.

Propagation model: TIREM-EDX

Time: 50.00% Loc: 50.00% Margin: 11.0 dB

Climate: Continental Temperate

Gndcvr: None

Atm. factor: None

K.Factor: 1.333

RX Antenna - Type: OMNI

Height: 4.0 feet AGL Gain: 0 dBd

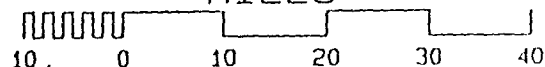
Most Likely Server:

01 Cam1
 Pecan Cam1T
 PecanT
 Sabin
 SabinT

Minimum signal level: -100.0 dBmW

Site	Ant Elv AMSL (feet)	ERPd (dBW)	Ant. Type /Orient.	Coordinates
01	200.0	.00	OM-V	N 30 0 .0 W 82 0 .0
Pecan	253.0	23.24	DA-V	N 29 37 37.0 W 92 22 24.0
PecanT	253.0	21.24	DA-V	N 29 37 37.0 W 92 22 24.0
Sabin	255.0	23.24	DA-V	N 29 43 36.0 W 93 53 8.0
SabinT	255.0	21.24	DA-V	N 29 43 36.0 W 93 53 8.0
Cam1	255.0	23.24	DA-V	N 29 46 42.0 W 93 20 6.0
Cam1T	255.0	21.24	DA-V	N 29 46 42.0 W 93 20 6.0

MILES



Best Server Analysis
 Sabine Pass/Cameron/Pecan Island

N 29 00 00
 W 94 00 00

CENTENNIAL

COMMUNICATIONS

January 19, 1998

Jerry Rosenbaum
Petroleum Communications
5901 Earhart Expressway
Harahan, LA 70123

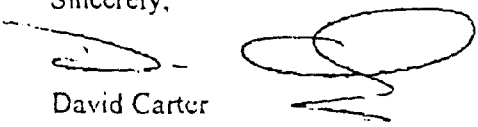
Dear Jerry,

Per our phone conversation last week concerning the operation of back-to-back cell sites by our companies, this letter memorializes Centennial's opinion of our experience.

In the summer of 1997, following the completion of an overlap agreement between our two companies, we established back-to-back cell sites at three locations as close as possible to the shoreline in our Beaumont-Port Arthur MSA and our Louisiana 5 RSA. During the negotiation of that overlap agreement, careful attention was paid to antenna design with the objective of ensuring that call initiation by mobiles on either side of the shoreline would occur such that revenue accrued to the licensee of the market in which the mobile was located at the time of initiation. In order to maximize the combined coverage of both of our systems, wide beam antennas were used with moderate front to back ratios. The ensuing performance since system commissioning has been in line with anticipated performance. Both of us have achieved the coverage required with a strict and acceptable demarcation line governing call initiation. We see this as a clear demonstration that the coast line boundary, which, under current FCC rules, is coincident with market boundaries between land-based, and gulf-based carriers can be treated in an identical fashion to a similar market boundary between two land-based markets. In each case, if sufficient signal is to exist at the boundary which can provide high quality service to subscribers, operators must cooperate in allowing reasonable contour overlaps and the ultimate cooperation involving the establishment of back-to-back cell sites at the boundary has been shown to be a viable and attractive method of introducing seamless coverage at market boundaries while ensuring that revenue accrues to the proper licensee.

Centennial anticipates future similar cooperative ventures with Petrocom and sees their success as a complete repudiation of any argument which advocates a change in market boundaries in order to ensure the provision of satisfactory service to subscribers along the shoreline. In cases where back-to-back cell sites are not mutually attractive, we also anticipate that either party should be prepared to accept reasonable contour overlaps which, wherever possible, will be engineered to ensure a balance of signals at the boundary with adequate signal to provide quality service to each party's subscribers. Given such a degree of cooperation by both involved parties, we see no reason for a change in the current boundaries between our markets at the present time.

Sincerely,


David Carter
Director of RF Engineering

Dsp/DC